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Hu

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(54) **COMPLIANT BALLOON WITH LIQUID INJECTION**

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See application file for complete search history.

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(57)

ABSTRACT

A system and method for occluding a pulmonary vein. The device includes a treatment device comprising an inner balloon, an outer balloon, and a space therebetween. Delivery of fluid to the inner balloon inflates the treatment element to a first diameter. If a greater treatment element diameter is required to completely occlude a pulmonary vein, fluid is delivered to the space between the first and second balloons, which expands the second balloon and causes the treatment element to have a second diameter that is greater than the first diameter. The fluid delivered to the inner balloon and fluid delivered to the space between the balloons may be from different sources and may be delivered and exhausted independently. Once the treatment element is caused to have a diameter sufficient to completely occlude the pulmonary vein, the treatment element is activated to cool or heat ostial tissue.

25 Claims, 8 Drawing Sheets

